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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,527

09/30/2005

Udo Merker

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EXAMINER

NGUYEN, KHANH TUAN

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

06/02/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,527	Applicant(s) MERKER ET AL.	
	Examiner KHANH T. NGUYEN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on rce filed on 03/08/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11, 13, and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/08/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/08/2010 has been entered.

Response to Amendment

2. The amendment filed on 02/16/2010 is entered and acknowledged by the Examiner. Claims 2-11, 13, and 14 are currently pending in the instant application. Claims 1, 12, and 15-75 have been cancelled.

Information Disclosure Statement

3. The information disclosure statement (IDS) filed on 03/08/2010 has been considered. An initialed copy accompanies this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 14 recite "mixing the oxidant with at least one precursor for preparing at least one conductive polymer". It is unclear what precursor is claimed. To advance prosecution, the examiner will construe the "precursor" as a conductive polymer precursor.

Claim Rejections - 35 USC § 102

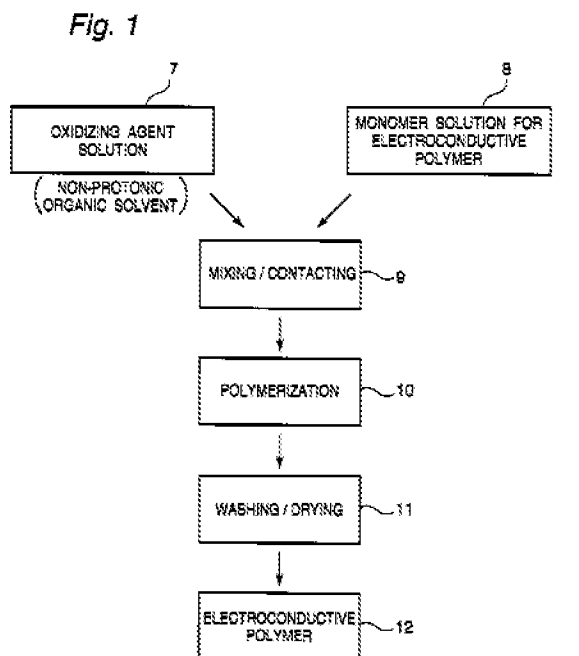
6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. **Claims 2-8, 11, 13, and 14 are rejected under 35 U.S.C. 102(b) as being unpatentable over U.S. Pat. 5,986,046 (Nishiyama). It should be noted that the instant reference was cited in the PTO-892 on 05/08/2009.**

Nishiyama discloses a method for preparing electroconductive polymers such as polythiophene derivative polymers (Col. 4, lines 23-30) wherein an oxidizing agent solution, i.e. step 7, is prepared and a monomer (precursor) solution of electroconductive polymer is prepared, i.e. step 8,

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before contacting the oxidizing solution with the monomer solution to form the electroconductive polymer, i.e. steps 9 to 12 (Col. 5, lines 1-12; Fig. 1). Clearly, Nishiyama suggest a step of mixing the oxidant (oxidizing agent solution) with at least one precursor (monomer solution for electroconductive polymer) for preparing at least one conductive polymer as required in **claim 14**.



In one embodiment, Nishiyama discloses the oxidant solution can be prepared by introducing an iron (III) ion as an oxidant, into a non-protonic organic solvent, such as acetonitrile, dissolving a high concentration of a derivative of aromatic sulfonic acid having, as a substituting group, at least one of

the OH group and the COOH group which is an acidic group (Col. 3, lines 59-65). The non-protonic organic solvent, e.g. acetonitrile, of Nishiyama fulfills the claimed required of the process is carried out in the presence of one or more solvent as required in **claim 8**. The OH group or the COOH group is a dopant anion that can dissociates to react with the metal ion (Col. 4, lines 1-22). The dopant anion fulfills the claimed anion exchanger required in **claims 2 and 3**. Nishiyama discloses the oxidizing agent. In one example, Nishiyama uses $\text{Fe}^{3+}/5$ -sulfosalicylic acid/p-phenolsulfonic acid as the iron salt to prepare the oxidant solution (Col. 6, lines 50-55). The $\text{Fe}^{3+}/5$ -sulfosalicylic acid/p-phenolsulfonic acid salt of Nishiyama fulfills the claimed iron(III) salt of **claims 4, 5, and 7** having a sulfonic acid radical of **claim 6**. **Claim 13** requires the oxidant presented in a solution and the solution has a water content that includes 0 wt.% based on the total weight of the solution, thus the water content is construed as an optional, non-essential, component and need not be disclosed or suggested by Nishiyama. Nishiyama further suggest, at step 11, the steps of washing, filtering, and drying the solution, i.e. oxidant containing solution, to remove the solvent (Col. 5, lines 19-20; Col. Fig. 1). Step 11 of Nishiyama inherently separates the from solvent after the treatment with the ion exchanger as required

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in **claim 11**. It should be noted that the optional limitation of redissolving the oxidant in the same solvent or another solvent as recited in claim 11 need not be disclosed or suggested by Nishiyama since the instant step is optional. The reference specifically or inherently meets each of the claimed limitations. The reference is anticipatory.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. **Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. 5,986,046 (Nishiyama) as applied to the above claims, and further in view of U.S. Pat. 4,910,645 (hereinafter refer to as Jonas).**

Nishiyama is relied upon as set forth above. With respect to instant **claim 9**, Nishiyama discloses a method of preparing electroconductive polymer by oxidation polymerization process (Col. 1, lines 10-15). Nishiyama discloses the electroconductive polymer including polythiophene derivative (Col. 3, line 27). Nishiyama discloses the method including a iron(III) salt and a non-protonic organic solvent, such as acetonitrile, but failed to disclose the solvent or solvents used is/are one or more

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alcohol(s), water or a mixture of one or more alcohol(s) and water as required by the instant claim.

However, Jonas discloses a conductive polymer such as polythiophene can be obtained by oxidative polymerization (Col. 1, lines 31-33). Jonas discloses the oxidative polymerization of 3,4-dialkoxythiophene (polymer precursor) and/or oxidant are in solvents including aliphatic alcohols such as methanol, ethanol, and i-propanol; aliphatic nitrile such as acetonitrile; and a mixture of water and said solvents (Col. 2, lines 37-59). Jonas also discloses an oxidant such as iron(III) salt of organic acids and of inorganic acids containing organic radicals (Col. 3, lines 10-11). Jonas discloses the solution of oxidant and the solution of monomer (3,4-dialkoxythiophene) are applied separately (Col. 3, lines 45-49).

Nishiyama and Jonas are combined because they suggest a method of preparing polythiophene derivative polymer by oxidation polymerization that involves a solution of iron(III) salt (oxidant solution) and a solution of monomer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Nishiyama by substituting the acetonitrile solvent of Nishiyama with the alcohol solvent of Jonas and the result would have been

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predictable since Jonas discloses acetonitrile solvent or alcohol solvent can be used to prepare the oxidant solution (Col. 2, lines 42-59). Therefore, the substitution of acetonitrile solvent for alcohol solvent in the method of Nishiyama would have been obvious. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

Regarding **claim 10**, Jones discloses the alcohol solvent is selected from a group including methanol and ethanol as required by the instant claim (Col. 2, lines 45-46).

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

Response to Arguments

10. Applicant's arguments with respect to the claims above have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. No claim is allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHANH T. NGUYEN whose telephone number is (571)272-8082. The examiner can normally be reached on Monday-Thursday 7:00-6:00 EST PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khanh Tuan Nguyen/
Examiner, Art Unit 1796